

Annexure-II

As prepared Bioactive glass (BG) micronanofibre based unique wound care matrix

Abstracts

Chronic wounds are defined as wounds that fail to proceed through the normal phases of wound healing in an orderly and timely manner. Often, chronic wounds stall in the inflammation phase of healing. Examples of Chronic wounds are categorized into diabetic foot ulcers, venous leg ulcers, arterial insufficiency and pressure ulcers. Some of the most common complications include infection, tissue necrosis, periwound dermatitis etc. The existing market available wound dressing materials comprising hydrogel, hydrocolloid, foam, film etc. are associated with toxicity, related to adherence to wound, cannot give protection from bacterial infection, fail to maintain an optimal moisture environment, may be immunogenic.

Our proposed technology has many more advantages over existing materials, as following:

1. **No need** of frequent changing of the dressing
2. **No chance** of skin maceration and preserves skin elasticity
3. **No** bacterial contamination
4. **Permeable** to water vapour and air for appropriate moisture balance
5. **Promotes tissue regeneration** and works at molecular level.
6. Our technology is much **simpler** and **less time consuming** to develop using electrospinning technique. An FDA approved water soluble polymer is used for achieving an optimal rheological property. The final product is effective for wound healing and take much less time (15 days) to close an open chronic wound without any scar mark left and signs of acute demal toxicity (edema, erythema etc.).